

the PTO. The Examiner is requested to call the undersigned attorney if the references have not/cannot be found.

Claims 1-46 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the inventions. Applicants respectfully request reconsideration of this rejection.

The Office Action at page 2 alleges that the claims are vague and indefinite because the preamble cites the generation of compounds that modulate expression without reciting any steps that relate to modulating expression. Claims 1-10, as amended, recite a method of "defining" a set of compounds. Claims 11-20, as amended, recite a method of "generating oligonucleotides." Claims 21, and 23-40, as amended, are directed to a method of "identifying" one or more nucleic acid sequences. Claim 22, as amended, is directed to methods of "identifying" compounds. Claims 41-46 are directed to computer formatted medium. Significantly, none of the claimed methods are directed to methods of "modulating expression," which would require recitation of steps directed thereto. Rather, the claims are directed to methods of "defining," "generating," or "identifying" compounds or oligonucleotides and recite the appropriate steps. Since the claims do not present any impediment to one skilled in the art to determine whether a method of interest is or is not within the scope of the claims, the claims are definite within the meaning of the patent laws. *In re Mercier*, 185 U.S.P.Q. 774 (C.C.P.A. 1975) (claims sufficiently define an invention so long as one skilled in the art can determine what subject matter is or is not within the scope of the claims).

The Office Action also asserts at page 2 that recitation of defined criteria in the claims is so broad as to obscure its connection with modulation of expression. The portions of the claims to which the Office Action appears to be referring are directed to generating libraries of virtual compounds *in silico* according to defined criteria and evaluating *in silico* the binding of virtual compounds with target nucleic acids according to defined criteria. Applicants have amended the claims, in part, to recite that the modulation of expression of a target nucleic acid sequence is by binding of the compounds with the target nucleic acid sequence. One skilled in the art would be able to determine whether a particular compound binds to the target nucleic acid sequence and, thus,

modulates expression of a target nucleic acid. Accordingly, one skilled in the art would be able to determine whether a method of interest is or is not within the scope of the claims.

In view of the foregoing, Applicants respectfully request that the rejection of claims 1-46 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Claims 1-46 stand rejected under 35 U.S.C. § 102(e) as allegedly being unpatentable in view of U.S. Patent No. 5,783,431 (hereinafter, the "Peterson" reference). The Office Action asserts at page 3 that the Peterson reference discloses the preparation of expression libraries, robotic screening of the compounds, and a variety of screening criteria. Applicants respectfully request reconsideration of this rejection.

The Peterson reference fails to teach Applicants' claimed embodiments in numerous ways. For example, the Peterson reference teaches actual construction of combinatorial gene expression libraries, which use actual cloning vectors and host cells, for traditional drug discovery rationale. Further, the Peterson reference teaches evaluating compounds *in vivo* or *in vitro*. In contrast, Applicants' claims are directed, in part, to generation of virtual compounds *in silico*, as well as evaluating *in silico* the binding of the virtual compounds with the target nucleic acid sequence. There is no teaching or suggestion in the Peterson reference to define a set of compounds that modulate the expression of a target nucleic acid sequence via binding of the compound with the target nucleic acid sequence, let alone perform these steps *in silico*. The standard for anticipation is one of strict identity. An anticipation rejection requires a showing that each limitation of a claim be found in a single reference, *Atlas Powder Co. v. E.I. DuPont de Nemours & Co.*, 224 U.S.P.Q. 409, 411 (Fed. Cir. 1984). Since the Peterson reference fails to teach essential elements of Applicants' claims, the Peterson reference cannot anticipate Applicants' claimed embodiments. Accordingly, Applicants respectfully request that the rejection of claims 1-46 under 35 U.S.C. § 102(e) be withdrawn.

ISIS-2960

PATENT

In view of the foregoing, it is respectfully submitted that this patent application is now in condition for allowance. Accordingly, an indication of allowability and an early Notice of Allowance are respectfully requested.

Respectfully submitted,



Paul K. Legaard
Registration No. 38,534

Date: **June 28, 1999**

WOODCOCK WASHBURN KURTZ
MACKIEWICZ & NORRIS LLP
One Liberty Place - 46th Floor
Philadelphia, PA 19103
(215) 568-3100